



West Valley Demonstration Project

Large Scale Demonstration and Deployment
Project of Hot Cell D&D at the West Valley
Demonstration Project

Technical Demonstration Fact Summary Sheet

Size Reduction Using a Hurst EK Combination Tool

THE NEED

The West Valley Demonstration Project (WVDP) is decontaminating a number of highly radiologically contaminated hot cells to reduce potential long-term risks to the public and the environment. Various pieces of equipment, piping, and other materials in these cells need to be cut (size-reduced) using remote techniques before they can be removed and packaged safely. Standard tools for size-reducing materials like steel plate and piping often require frequent blade change-out; use cutting techniques that have the potential to produce sparks or flames; or generate secondary waste during cutting. Tools that can be used to cut or shear materials quickly without requiring frequent maintenance, increasing risk, or generating secondary waste can improve size-reduction and increase safety.

THE TECHNOLOGY

The Hurst EK Combination Tool is a powerful, lightweight, self-contained, battery operated tool that can be used to quickly and easily cut through a wide range of materials, including stainless steel plate and piping. Its most common application is as a portable power tool used by first responders to conduct emergency rescues operations in confined spaces, down embankments or similarly difficult to reach settings. Weighing about 50 lbs. (22.5 kg) with built-in battery pack, the tool can be used to complete rescue cuts on two automobiles with its power shear before battery recharging is required.

THE DEMONSTRATION

Taking advantage of its weight and portability, several minor adaptations were made to the Hurst EK Combination Tool to allow its normal functions to be performed using remote equipment. After these adaptations were completed, the modified tool was mounted on a power manipulator used to perform a series of tasks to test its cutting capabilities.

THE RESULTS

After demonstrating the Hurst EK Tool in one hot cell where equipment removal is being conducted, four additional tools were purchased and prepared for use as cutting tools.

BENEFITS

- Cuts quickly through piping of various sizes, vessels, tanks, and miscellaneous materials.
- Cuts without generating secondary waste.
- Easily adapted for use with power manipulators.

